Trojan Technologies Inc.

World Leader in UV Disinfection Systems

COLLIMATED BEAM TEST SAMPLING INSTRUCTIONS

To: Terry Desmarais, Underwood Engineers

From: Michael Shortt, Trojan Technologies Inc.

Date: 2/3/2006

Re: **Collimated beam sampling instructions**

The collimated beam test helps determine the UV dose necessary to disinfect wastewater effluent to legislated permit levels or lower for a specified target microorganism. **Take the collimated beam sample on a Mon., Tues., or Wed. to ensure suitable shipping transit time and proper sample analysis.**

Collimated Beam Test Sampling Instructions:

1. The collimated beam test requires **UNDISINFECTED** effluent.
2. Using plastic bottles, collect three 1 liter/quart grab samples of final effluent before chlorine contact chamber. Label all three sample bottles: "Collimated Beam Sample".
3. Using a plastic bottle, collect one 0.5 liter/quart grab sample of final effluent before chlorine contact chamber. Add 0.5 mL of chlorine bleach to the sample to prevent any changes to particle size while in transit. Label sample bottle: "PSA – preserved with bleach".
4. Include plant process info, flow rate, weather conditions, required disinfection limits and date/time during sampling.

Shipping Instructions:

1. Collect **and** ship samples on the same day.
2. Pack sample bottles in double-bagged garbage bags, taped at the opening to avoid leakage.
3. Sample bottles must be packed in an **ice cube-filled** (or ice pack) sturdy cooler. **NO** dry ice.
4. The cooler lid must be taped and sealed to avoid leaks.
5. Include plant name, phone/fax number and plant contact.
6. Ship **overnight delivery** by **FedEx** to: Analytical Services, Trojan Technologies Inc.
   3020 Gore Road
   London, Ontario, Canada, N5V 4T7
   Tel. 519 457-3400, Fax. 519 457-3030

IMPORTANT - Sample Description/Shipment Information:

Label shipping document as: "**WATER SAMPLE FOR ANALYSIS**".
Total Declared Value = $10.00
Please inform us of the courier TRACKING NUMBER after shipping cooler.
Contact Lab Supervisor (X2187) if you have any questions.

TROJANUV
WATER CONFIDENCE

WATER ANALYSIS REPORT

To: John Faber

Rep: Maher Corp.

Eng: Underwood Engineering

Project Name: **Pease WWTF, NH**

Sample #: S05-1319 & S05-1320

Sample Source: Tertiary Effluent

Process: SBR 4 cycles

Date sample taken: October 5, 2005

Date sample analysed: October 6, 2005

Parameters Analyzed: UV Transmittance-whole sample, UV Transmittance - filtered, TSS, UV Dose Response (Collimated Beam)

Disinfection Limit: 14 FC/100mL

SAMPLE NO.	SAMPLE DESCRIPTION	%T	%T FILTERED	TSS (PPM)	MEAN PARTICLE SIZE (MICRONS)	% PARTICLE >31 MICRONS
S05-1319	Collimated Beam – Oct. 5/05 10:10am Weather = Overcast, 21.5◦C Flow Rate = 132000 gpd	63	63	2	36.28	42.26
S05-1320	PSA	--	–	–	30.29	34.94

Collimated Beam Results

Dose (mWs/cm2)	S05-1319 FC/100mL
0	100000
5	14000
10	172
20	4
40	1
80	2
100	4

Comments:

M.S Hoyt per Ted Mao.

tified by Ted Mao, Ph.D., P.Eng
Research Manager

TROJAN TECHNOLOGIES INC.
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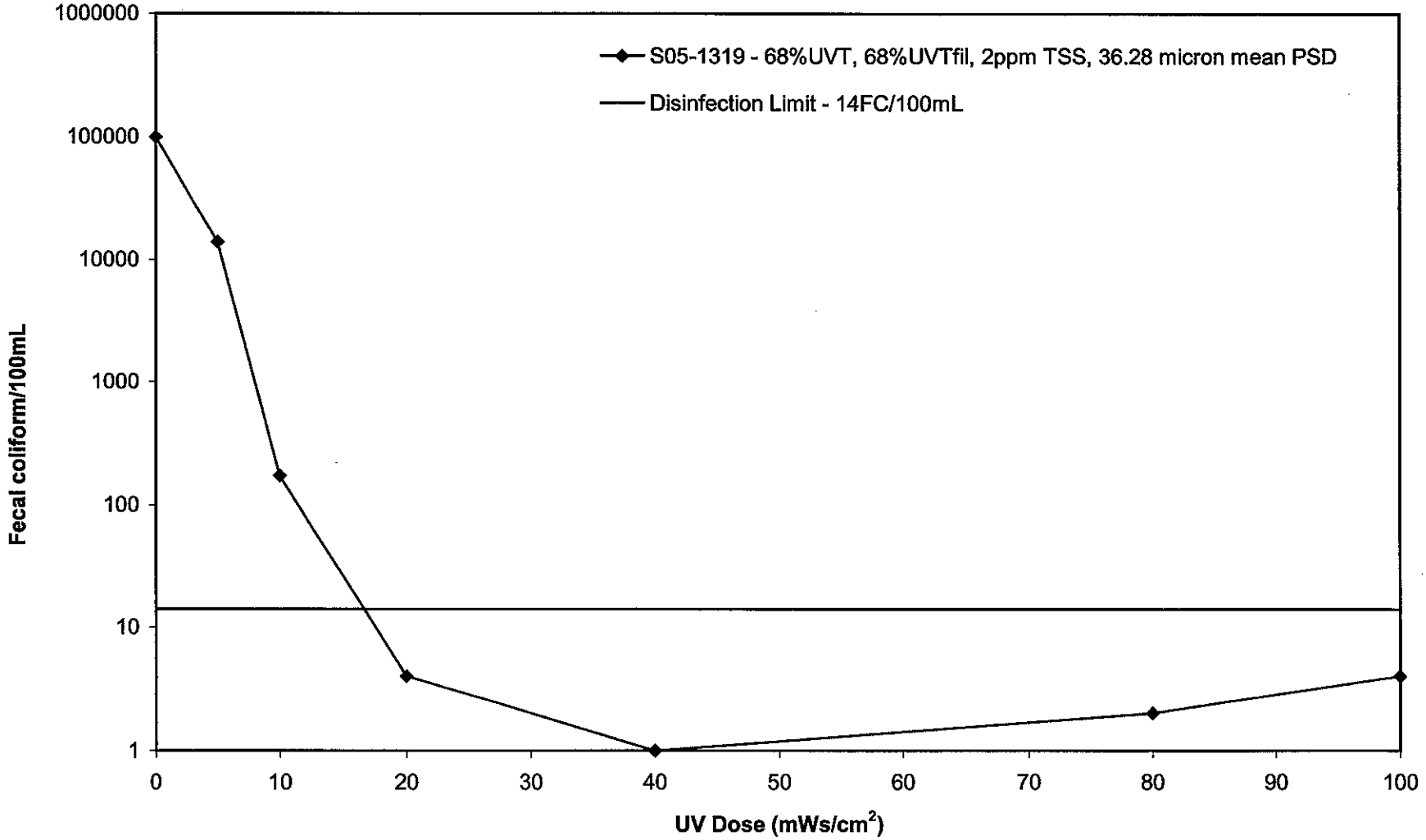
Pease WWTF, NH

SBR 4 cycles

October 5, 2005



Portsmouth, NH
Lease WWTF

05-1319
-1320

Process Info: SBR 4 cycles

Flow Rate: 132,000 gpd
@ time sample

Weather: Overcast ~~F~~ C 21.5°C

Disinfection Limit: 14 FC/100ml

Date/Time Sample: 10/5 Wed 10:10 AM
EST